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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,779	03/25/2004	Cem Basceri	MI22-2515	9601
21567	7590	02/16/2006	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			LE, DUNG ANH	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/810,779		BASCERI ET AL.	
	Examiner		Art Unit	
	DUNG A. LE		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 40-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

The previous Office action has been withdrawn. This is a new ground of rejection.

Oath/Declaration

The oath/declaration filed on 3/25/20044 is acceptable.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 40 and 47 are rejected under 35 USC 102 (b) as being anticipated by Ying et al. (6,231,744 B1).

Ying teaches a circuit construction (Refer to Figs. 2-2B and related texts),
comprising:

a substrate 26;

substantially crystalline electrically insulative material 22 (aluminum oxide
is crystalline electrically insulative material, also regard **claim 47**) a over the
substrate;

a plurality of openings 28 extending within the substantially crystalline
electrically insulative material (column 9, lines 55-60); and

electrically conductive material 32 within the openings 28
and corresponding to quantum dots 34 (column 10, line 5 and Fig. 2B).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for
all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 44- 46 and 48 are rejected under 35 U.S.C. 103 (a) as being
unpatentable over Ying et al. in view of the following remark.**

Regarding claim 44, Ying et al. teaches the claimed invention as cited in claim 40 including the substantially crystalline electrical insulative material consists essentially of aluminum oxide 22 , but fails to teaches the substantially crystalline electrical insulative material consists essentially of titanium oxide as cited in current claim 44.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a plurality of openings within the titanium oxide, this material is commonly used to protect the contact region and provide a high-performance electron emitting device capable of emitting a large amount of electrons, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended application.

Claims 45-46 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Ying et al. in view of the following remark.

Ying et al. teaches the claimed invention as cited in independent claims 40 and 44 including metal as the electrically conductive material is filler in nanohole [col 9, line 65], but fails to teaches the electrically conductive material comprises

titanium and the electrically conductive material comprises tungsten as cited in current claims 46-46.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the opening with titanium or tungsten because the titanium or tungsten is commonly used to prevent undesirable or detrimental reactions in the contact region and provide a high-performance electron emitting device capable of emitting a large amount of electrons, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the desired use.

Claim 48 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Ying et al. in view of the following remark.

Ying et al. teaches the claimed invention as cited in claim 40 including metal as the electrically conductive material is pore filler [col 9, lines 65], but fails to teaches the electrically conductive material comprises titanium and the electrically conductive material comprises tungsten as cited in current claims 40 and 47.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the opening with titanium or tungsten because the titanium or tungsten is commonly used to prevent undesirable or detrimental reactions in the contact region and provide a high-performance electron emitting device capable of emitting a

large amount of electrons, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Claims 40 and 41 are rejected under 35 USC 102 (b) as being anticipated by Iwasaki et al. (2001/0028872 A1).

Iwasaki et al. teach a circuit construction, comprising:

a substrate 11/33;

substantially crystalline electrically insulative material 13 over the substrate 11 [0195]; a plurality of openings 14 extending within the substantially crystalline electrically insulative material; and electrically conductive material 111/233/141 [0136] within the openings and corresponding to quantum dots [0250].

Regarding claim 41, the substrate is a semiconductor substrate 11/33.

Claims 42 and 43 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Iwasaki et al. in view of the following remark.

Iwasaki et al. teaches the claimed invention as cited in independent claim 40 including metal as the electrically conductive material is filler in nanohole [0246], but fails to teaches the electrically conductive material comprises titanium and the

electrically conductive material comprises tungsten as cited in current claims 42-43.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the opening with titanium or tungsten because the titanium or tungsten is commonly used to prevent undesirable or detrimental reactions in the contact region and provide a high-performance electron emitting device capable of emitting a large amount of electrons, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the desired use.

If Applicants are aware of better art than that which has been cited, they are required to call such to attention of the examiner.

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.


A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung A. Le whose telephone number is (571) 272-1784. The examiner can normally be reached on Monday-Tuesday and Thursday 6:00am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The central fax phone numbers for the organization where this application or proceeding is assigned are (571)272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DUNG A. LE 
Primary Examiner
Art Unit 2818